

**Heliospheric Missions Guest Investigator (HMGI)  
Research and Analysis Program**

NASA Research Announcement  
Soliciting Proposals  
for  
Basic Research

Notices of Intent requested by April 7, 1997  
Proposals Due: June 3, 1997

NRA 97-OSS-03  
Issued: March 3, 1997

Office of Space Science  
National Aeronautics and Space Administration  
Washington, DC 20546-0001

## **Heliospheric Missions Guest Investigator Research and Analysis Program**

This NASA Research Announcement (NRA) solicits basic research proposals relating to the analysis of data from the heliospheric missions Pioneer 10 and 11, the Voyager Interstellar Mission, Ulysses, and the Solar, Anomalous, and Magnetospheric Particle Explorer (SAMPEX). The objective of this program is to enhance the scientific return from the heliospheric missions. This program will support new research investigations of the solar wind and other phenomena based on data from these missions, including theory and modeling of the origin and development of the solar wind and its interaction with the galaxy in anticipation of future observations.

Participation in this program is open to all categories of organizations, domestic or foreign, including educational institutions, for-profit and not-for-profit organizations, NASA Centers, and other Government agencies. Proposals may be submitted according to the schedule below and will be evaluated by scientific review panels.

Further details relevant to this program are included in the appendices to this Announcement. The complete text of the NRA and its appendices are available through the World Wide Web in several common formats under the selection "Research Opportunities" on the homepage of the NASA Office of Space Science (OSS) at the URL address <<http://www.hq.nasa.gov/office/oss/>>.

Appendix A provides programmatic and data access information about the Heliospheric Missions Guest Investigator Program. Appendices B and C contain general and specific instructions for preparation of solicited proposals in response to this NRA. Appendix D contains standard forms which must be completed and submitted with the proposal.

Proposers without access to the Internet may request paper copies of this NRA from

Heliospheric Missions Guest Investigator Program  
Jorge Scientific Corporation  
Suite 700  
400 Virginia Avenue, SW  
Washington, DC 20024  
Telephone: (202) 554-2775

or by E-mail to <[debra.tripp@hq.nasa.gov](mailto:debra.tripp@hq.nasa.gov)>.

Financial support is offered only to U.S. investigators who are not already funded as investigators on experiments whose data they wish to use. Approximately \$1M per year is expected to be available for guest investigations on heliospheric missions in FY 1997 and FY 1998, and somewhat less for FY 1999. Between 10 and 20 proposals will be selected for funding. In addition to proposals seeking direct funding from NASA, this

NRA solicits proposals from scientists in the U.S. and in other countries who demonstrate adequate financial support from other sources.

Funds for awards under this NRA are expected to be available annually, subject to the NASA budget. The Government's obligation to make awards is contingent upon the availability of appropriated funds from which payment for award purposes can be made and the receipt of proposals which the Government determines are acceptable for award under this NRA.

Identifier: NRA 97-OSS-03

Submit Notice of Intent to: Heliospheric Missions Guest Investigator Program  
Jorge Scientific Corporation  
Suite 700  
400 Virginia Avenue, SW  
Washington, DC 20024

or by E-mail to: [debra.tripp@hq.nasa.gov](mailto:debra.tripp@hq.nasa.gov)

Due date for Notice of Intent: April 7, 1997

Submit proposal to: Heliospheric Missions Guest Investigator Program  
Jorge Scientific Corporation  
Suite 700  
400 Virginia Avenue, SW  
Washington, DC 20024

Contact for commercial delivery: Ms. Debra Tripp  
Telephone: (202) 554-2775

Proposal due date: June 3, 1997

Number of proposal copies required: 1 signed original and 11 copies,  
plus 2 additional copies each of the Cover Page  
and Abstract (in the specified formats)

Selecting Official: Director  
Research Program Management Division  
Office of Space Science

Obtain additional information from: Dr. Miriam A. Forman  
Research Program Management Division  
Code SR

Office of Space Science  
NASA Headquarters  
Washington, DC 20546-0001  
E-mail: [miriam.forman@hq.nasa.gov](mailto:miriam.forman@hq.nasa.gov)  
Telephone: (202) 358-0897

NASA appreciates your interest and cooperation in the Heliospheric Missions Guest Investigator Research and Analysis Program.

George L. Withbroe  
Science Program Director  
The Sun-Earth Connection  
Office of Space Science

## **List of Appendices**

Appendix A - Program Description

Appendix B - Instructions for Responding to NASA Research Announcements for  
Solicited Basic Research Proposals

Appendix C - Additional Guidelines for the Preparation of Proposals in Response to  
NASA Research Announcement NRA 97-OSS-03

Appendix D - Standard Forms

- Cover Page
- Abstract
- Summary Budget
- Yearly Budget
- Current and Pending Federal Research Support
- Certifications (Drug-Free Workplace, Debarment and Suspension, and Lobbying)
- NASA Mailing List Update Form

## Program Description

### Heliospheric Missions Guest Investigator (HMGI) Research and Analysis Program

#### 1. Objectives of the Program

The objective of the Heliospheric Missions Guest Investigator Program is to enhance the scientific return from the heliospheric missions. This program will support new research investigations whose dominant emphasis is the analysis and interpretation of past, current and future data from the heliospheric missions, including theory and modeling of the origin and development of the solar wind and its interaction with the galaxy in anticipation of future observations. Proposals should describe the research program clearly enough to permit a reviewer to understand and appreciate the extent to which the proposed study would increase the scientific return from continuing heliospheric missions.

#### 2. Heliospheric Mission Descriptions

**Pioneer 10 and 11** were the first exploratory missions to the giant planets Jupiter and Saturn. These Pioneers continued on to study the heliosphere created by the solar wind and its interaction with the galaxy. Pioneer 11 had reached 44 AU in 1996 when its power became insufficient to return science data. Pioneer 10 will be at nearly 67 AU from the Sun in March 1997, when it will cease science operations because of insufficient power.

**Voyager Interstellar Mission (VIM)** is the continuation of the heliosphere science on Voyagers 1 and 2 beyond Neptune to explore the transition region between the solar wind and the interstellar medium. Voyagers 1 and 2 are now at about 60 and 50 AU from the Sun, respectively. The two spacecraft have the potential to continue returning science data until about 2020, when they will be at about 150 and 120 AU, respectively. Based on scientific evidence largely from VIM so far, it is considered likely that both VIM spacecraft will pass the termination shock of the solar wind and that at least Voyager 1 will pass the heliopause boundary and enter the local interstellar medium, before 2020.

**Ulysses** is a major collaboration between NASA and the European Space Agency (ESA) to explore the heliosphere at high solar latitude a few Astronomical Units (AU) from the Sun. Launched in 1990, Ulysses swung by Jupiter in 1992 to achieve an orbit plane inclined 80.2 degrees to the solar equator. The first set of polar passes was in 1994-1995. Ulysses has been extended by mutual agreement and is expected to achieve a second set of polar passes in 2000-2001, during solar maximum.

**The Solar, Anomalous, and Magnetospheric Particle Explorer (SAMPEX)** is a Small Explorer mission launched in 1992 into a low Earth polar orbit. Reentry is predicted for January 2001. In this orbit, SAMPEX uses the Earth's magnetic field as a magnetic spectrometer to reveal the spectra and isotopic and charge states of galactic, heliospheric and solar energetic protons and heavy ions. SAMPEX also studies electrons precipitating from the magnetosphere and heavy ions in the radiation belts.

### **3. Scope of Program**

Investigations of one, two, or three year duration will be considered. It should be noted, however, that another heliospheric guest investigator selection is not expected before 1999. During the period of their investigation, Guest Investigators will be considered as members of the mission science team, along with all the experimenters of the mission whose data they are using. They must abide by that mission's protocols on use of data and participation in science team discussions. Successful proposers are encouraged to participate in the regularly scheduled science team meetings and scientific conferences in which mission results are reported. Proposal budgets may include expenses for attending such meetings.

### **4. Using Mission Data**

This NRA solicits investigations that use data in the public domain (all data more than a year old and some newer data) and/or data that are still being validated by an experiment team. All proposals to this NRA must indicate how data will be accessed and managed. Proposals to use data in the validation phase will be considered only if accompanied by a plan for accessing and managing the data, and for meeting the costs of using unvalidated data in cooperation with the experimental investigators. Proposals to use data in the validation phase must also include a statement from the affected experiment Principal Investigator(s) affirming their cooperation in the investigation plan if it is selected, including an estimate of expenses that would be incurred by the experiment team on behalf of, and peculiar to, the proposed guest investigation. U.S. instrument PI(s) on heliospheric missions may request NASA to support such expenses if the Guest Investigation is selected.

### **5. Available Data**

Detailed information about these missions, their instruments, personnel, research results, and how to get data is readily available on the Internet. See the listings for the Pioneer, Voyager, Ulysses, and SAMPEX missions, experiments, and archived data sets in the Flight Projects section of the Space Physics Missions home page which is maintained by the National Space Science Data Center (NSSDC) at URL

**<[http://nssdc.gsfc.nasa.gov/space/space\\_physics\\_home.html](http://nssdc.gsfc.nasa.gov/space/space_physics_home.html)>.**

Prospective Guest Investigators are encouraged to contact mission and instrument personnel for more information. Prospective Guest Investigators should also consult the home page of the new NASA Space Physics Data Availability (SPDA) data base at:

**<<http://nssdc.gsfc.nasa.gov/space/spdf/SPD.html>>**

for additional information about validated data available from the NSSDC and from other sources. Prospective investigators may also contact the NSSDC directly through:

Dr. Joseph H. King  
National Space Science Data Center  
Code 633  
Goddard Space Flight Center  
National Aeronautics and Space Administration  
Greenbelt, MD 20771  
Telephone: (301) 286-7355  
FAX: (310) 286-1771  
E-mail: [king@nssdca.gsfc.nasa.gov](mailto:king@nssdca.gsfc.nasa.gov)

**Instructions for Responding to NASA Research Announcements for  
Solicited Basic Research Proposals**

(June 1995)

**1. Foreword**

a. These instructions apply to “NASA Research Announcements.” The “NASA Research Announcement (NRA)” permits competitive selection of research projects in accordance with statute while preserving the traditional concepts and understandings associated with NASA sponsorship of research.

b. These instructions are Appendix I to 1870.203 of the NASA Federal Acquisition Regulation Supplement

**2. Policy**

a. Proposals received in response to an NRA will be used only for evaluation purposes. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a preaward synopsis published for individual proposals.

b. A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request, however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act,

**3. Purpose**

These instructions supplement documents identified as “NASA Research Announcements.” The NRA’s contain programmatic information and certain requirements which apply only to proposals prepared in response to that particular Announcement. These instructions contain the general proposal preparation information which applies to responses to all NRA’s.

**4. Relationship to Award**

- a. A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded in response to an NRA. NASA will determine the appropriate instrument.
- b. Grants are generally used to fund basic research in educational and nonprofit institutions, while research in other private sector organizations is accomplished under contract. Contracts resulting from NRA's are subject to the Federal Acquisition Regulation and the NASA FAR Supplement (NHB 5100.4). Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NPG 5800.1D).

## **5. Conformance to Guidance**

- a. NASA does not have mandatory forms or formats for responses to NRA's; however, it is requested that proposals conform to the guidelines in these instructions. NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible and be submitted on the proposers' most favorable terms.
- b. To be considered responsive, a submission must, at a minimum present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization (not merely offer to perform standard services or to just provide computer facilities or services); and not significantly duplicate a more specific current or pending NASA solicitation.

## **6. NRA-Specific Items**

Several proposal submission items appear in the NRA itself: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information. Items included in these instructions may be supplemented by the NRA.

## **7. Proposal Contents**

- a. The following information is needed to permit consideration in an objective manner. NRA's will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.
- b. Transmittal Letter or Prefatory Material.
  - (1) the legal name and address of the organization and specific division or campus identification, if part of a larger organization,

- (2) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;
- (3) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;
- (4) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;
- (5) Identification of other organizations that are currently evaluating a proposal for the same efforts;
- (6) Identification of the NRA, by number and title, to which the proposal is responding;
- (7) Dollar amount requested, desired starting date, and duration of project;
- (8) Date of submission; and
- (9) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

c. **Restriction on Use and Disclosure of Proposal Information.** Information contained in proposals is used for evaluation purposes only. Offerors or quoters should, in order to maximize protection of trade secrets or other information that is confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting appropriate identification, such as page numbers, in the notice. In any event, information contained in proposals will be protected to the extent permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice

**NOTICE: Restriction on Use and Disclosure of Proposal Information.**

The information (data) contained in [*insert page numbers or other identification*] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other agreement) is awarded on the basis of this proposal, the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data), if obtained from another source without restriction.

d. **Abstract.** Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective and the method of approach.

e. Project description.

(1) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the plan of work, including the broad design of experiments to be undertaken and a description of experimental methods and procedures. The project description should address the evaluation factors in these instructions and any specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Subcontracting significant portions of a research project is discouraged.

(2) When it is expected that the effort will require more than one year, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should be on the first year of work, and the description should distinguish clearly between the first year's work and work planned for subsequent years.

f. Management Approach. For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and arrangements for ensuring a coordinated effort should be described. Intensive working relations with NASA field centers that are not logical inclusions elsewhere in the proposal should be described.

g. Personnel. The principal investigator is responsible for supervision of the work and participates in the conduct of the research regardless of whether or not compensated under the award. A short biographical sketch of the principal investigator, a list of principal publications, and any exceptional qualifications should be included. Omit social security number and other personal items which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants, together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.

h. Facilities and Equipment.

(1) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use.

(2) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a

feasible alternative. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for research and nonresearch purposes should be explained

i. Proposed Costs.

(1) Proposals should contain cost and technical parts in one volume: do not use separate “confidential” salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator, other scientific and engineering professionals, graduate students, research assistants, and technicians and other nonprofessional personnel). Estimate all manpower data in terms of man-months or fractions of full-time.

(2) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self evident. List estimated expenses as yearly requirements by major work phases. (Standard Form 1411 may be used).

(3) Allowable costs are governed by FAR Part 31 and the NASA FAR Supplement Part 1831 (and OMB Circulars A-21 for educational institutions and A-122 for nonprofit organizations).

j. Security. Proposals should not contain security classified material. If the research requires access to or may generate security classified information, the submitter will be required to comply with Government security regulations.

k. Current Support. For other current projects being conducted by the principal investigator, provide the title of project, sponsoring agency, and ending date.

l. Special Matters.

(1) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, Executive Orders, or other current Government-wide guidelines.

(2) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

## **8. Renewal Proposals**

- a. Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. A renewal proposal should not repeat all of the information that was in the original proposal. The renewal proposal should refer to its predecessor, update the parts that are no longer current, and indicate what elements of the research are expected to be covered during the period for which support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.
- b. NASA may renew an effort either through amendment of an existing contract or by a new award.

## **9. Length**

Unless otherwise specified in the NRA, effort should be made to keep proposals as brief as possible, concentrating on substantive material. Few proposals need exceed 15-20 pages. Necessary detailed information, such as reprints, should be included as attachments. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of “one-of-a-kind” attachments; their availability may be mentioned in the proposal.

## **10. Joint Proposals**

- a. Where multiple organizations are involved, the proposal may be submitted by only one of them. It should clearly describe the role to be played by the other organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.
- b. Where a project of a cooperative nature with NASA is contemplated, describe the contributions expected from any participating NASA investigator and agency facilities or equipment which may be required. The proposal must be confined only to that which the proposing organization can commit itself. Joints proposals which specify the internal arrangements NASA will actually make are not acceptable as a means of establishing an Agency commitment.

## **11. Late Proposals**

A proposal or modification received after the date or dates specified in an NRA may be considered if the selecting official deems it to offer NASA a significant technical advantage or cost reduction.

## **12. Withdrawal**

Proposals may be withdrawn by the proposer at any time. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances which dictate termination of evaluation.

## **13. Evaluation Factors**

- a. Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.
- b. Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.
- c. Evaluation of its intrinsic merit includes the consideration of the following factors, none of which is more important than any other:
  - (1) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.
  - (2) Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.
  - (3) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives.
  - (4) Overall standing among similar proposals and/or evaluation against the state-of-the-art.
- d. Evaluation of the cost of a proposed effort includes the realism and reasonableness of the proposed cost and available funds.

## **14. Evaluation Techniques**

Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases, proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house, others are evaluated by a combination of in-house and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of interest and protection of proposal information), such as by mail or through assembled panels. The final decisions are made by a NASA selecting official. A proposal which is

scientifically and programmatically meritorious, but not selected for award during its initial review, may be included in subsequent reviews unless the proposer requests otherwise.

## **15. Selection for Award**

- a. When a proposal is not selected for award, and the proposer has indicated that the proposal is not to be held for subsequent reviews, the proposer will be notified. NASA will explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.
- b. When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation.

## **16. Cancellation of an NRA**

NASA reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability for canceling the NRA or for anyone's failure to receive actual notice of cancellation. Cancellation may be followed by issuance and synopsis of a revised NRA, since amendment of an NRA is normally not permitted.

**Additional Guidelines For The Preparation Of Proposals  
In Response To NASA Research Announcement NRA 97-OSS-03**

The information contained in Appendix C augments and supersedes Appendix B and is applicable only to this NRA.

**1. Notice of Intent**

Advance information in Notices of Intent assists NASA in preparing for the peer review of proposals. A one-page Notice of Intent to propose to this NRA should list:

1. PI's name and Institution,
2. PI's E-mail and postal addresses and telephone number,
3. Co-I's and their Institutions, to the extent known,
4. Descriptive working title of investigation to be proposed,
5. Heliospheric mission(s) whose data might be used, and
6. A brief description of the investigation.

Notices of Intent, to be useful, must arrive at the address given in the covering letter in the solicitation of this NRA, before the specified date.

**2. Proposal Format and Content**

Each proposal should include, in the order listed, the following parts:

1. Cover Page (form provided in Appendix D of this NRA). Note that the cover page requires signatures of the PI and the Institutional Authorizing Official.
2. Abstract of the proposed scientific investigation (form provided in Appendix D of this NRA). Indicate in the abstract if data in the validation phase will be used, and the name of the missions(s), experimental investigation(s) and cooperating mission experiment PI(s). NASA plans to publish the proposal titles, names of Principal Investigators with institutions, and summaries of all selected investigations, in a publicly accessible data base. Therefore, the submitted Abstract should be very clearly written in the specified form and should not contain any proprietary information that would preclude its release without restriction.
3. Table of Contents.

4. Science Plan. A detailed description of the proposed science program, including objectives, mission data to be used, work plan, schedule, expected results, and references to the literature. This section should provide sufficient detail to enable a reviewer to judge the scientific merit and feasibility of the proposed research in relation to the objectives and scope of the HMGI Research Program described in Appendix A.
5. Management Plan. Describes the role of the PI and each Co-I, and any other significant personnel in the accomplishment of the proposed work. If multiple institutions are involved, the institutional responsibilities and/or other terms of agreement necessary for achieving the objectives of the program should be specified. If data in the validation phase are to be used, the management plan must include a description of how the data will be accessed, and a signed one-page statement from the affected instrumental PI(s) affirming their cooperation. A U.S. instrumental PI's statement of cooperation should include an estimate and explanation of any additional cost the proposed study would impose on them, if they expect to request additional funding for this from NASA in the event this proposal is successful.
6. Budget Plan. The budget plan must contain the Summary Budget and Yearly Budget on forms supplied in Appendix D of this NRA, plus additional pages providing all the budget details and justifications requested in the "Instructions for Budget Summary" in Appendix D. The Budget Plan should clearly demonstrate to reviewers and to NASA the reasonableness of each cost item and its relevance to the purposes of the proposal, and of the HMGI. Proposals for studies requiring additional funding to U.S. experiment PI(s) should justify and state this amount on a separate page in the Budget Plan.
7. Current and Pending Federal Research Support (Forms provided in Appendix D of this NRA).
8. Curriculum Vitae. A brief curriculum vita, along with a list of relevant scientific publications covering the past five years, should be included. The curriculum vita and publications list should not exceed one page per PI or Co-I.
9. Certification Forms (note: the Certification forms need only be included in the signed original proposal; see Appendix D)
10. Institutional budget forms (preference of submitting institution(s)).

### **3. Page Limit**

Proposals should be concisely written in order to minimize the burden on the reviewers and to facilitate the overall review process. Printing on both sides of the paper is acceptable, but not required. Each side of a sheet of paper containing text or illustrations is considered a page. The Science Plan and Management Plan must be in at least 10-point type and together should not exceed 13 pages in length. Do not enclose reprints or

preprints or any form of electronic media. To facilitate recycling the paper in the proposals after review, proposals should be submitted on plain white paper only. This precludes the use of cardboard stock, plastic covers, colored paper, etc.

#### **4. Guidelines for Foreign Participation**

NASA welcomes proposals from outside the U.S. in response to this NRA. Proposals from non-U.S. entities should not include a cost plan. Proposals from outside the U.S. and U.S. proposals that include non-U.S. participation must be endorsed by the respective Government agency or funding/sponsoring institution in that country from which the non-U.S. participant is proposing. Such an endorsement letter should state the title of the proposal, the names of the PI and originating institution, and the number of this NRA, and indicate that

1. the proposal merits careful consideration by NASA; and,
2. if the proposal is selected, sufficient funds will be made available to undertake the activity as proposed.

In addition to sending twelve copies of the proposal as directed above, a single additional copy, along with the Letter of Endorsement by the foreign Government agency or funding/sponsoring institution, must be sent to:

Ms. Shiron D. Gaines  
NRA 97-OSS-03  
International Science and Aeronautics Division  
Code IS  
NASA Headquarters  
Washington, DC 20546-0001 USA

All proposals must be typewritten in English. All non-U.S. proposals will undergo the same evaluation and selection process as those originating in the U.S. Non-U.S. proposals and U.S. proposals that include non-U.S. participation must follow all other guidelines and requirements described in this NRA.

All proposals must be received before the established closing date; those received after the closing date will be treated in accordance with NASA's provisions for late proposals. Sponsoring non-U.S. agencies may, in exceptional situations, forward a proposal without endorsement to the above address, if endorsement is not possible before the announced closing date. In such cases, however, NASA's International Science and Aeronautics Division should be advised when a decision on endorsement can be expected.

Successful and unsuccessful proposers will be contacted directly by the NASA Research Program Management Division. Copies of these letters will be sent to the sponsoring Government agency. If a non-U.S. proposal or a U.S. proposal with non-U.S. participation is selected, NASA's International Science and Aeronautics Division will arrange with the non-U.S. sponsoring agency for the proposed participation on a no-exchange-of-funds basis, in which NASA and the non-U.S. sponsoring agency will each bear the cost of discharging their respective responsibilities. Depending on the nature and extent of the proposed cooperation, these arrangements may entail

1. a letter of notification by NASA; and
2. an exchange of letters between NASA and the sponsoring governmental agency, or
3. a formal Agency-to-Agency Memorandum of Understanding (MOU).

## **5. Education and Public Outreach**

"Partners in Education: A Strategy for Integrating Education and Public Outreach Into NASA's Space Science Programs" (March 1995) describes the Office of Space Science's approach for making education at all levels and the enhancement of the public understanding of science integral parts of space science research activities. Education and public outreach are now expected to be a part of each flight program and research discipline. The follow-on implementation plan, "Implementing the Office of Space Science (OSS) Education/Public Outreach Strategy," produced by the Education/Public Outreach Task Force of the Space Science Advisory Committee (SScAC), was published October 15, 1996. The implementation plan may be obtained from the OSS homepage at

[<http://www.hq.nasa.gov/office/oss/>](http://www.hq.nasa.gov/office/oss/),

by opening "Publications," or from Dr. Jeffrey D. Rosendhal, Office of Space Science, Code S, NASA Headquarters, Washington, DC 20546-0001.

In accordance with the policies in the OSS education strategy and the recommendations in the implementation plan, proposers are encouraged (but not required) to include education public/outreach activities in their proposals. Up to ten percent of a total grant award may be used for such activities.

We also call your attention to the Initiative to Develop Education through Astronomy (IDEA) program. This program, currently administered by the Space Telescope Science Institute, specifically provides small grants (typically \$6,000, but ranging up to \$20,000) to enhance the participation of space scientists in precollege or public outreach activities. A call for proposals to the IDEA program is issued annually by the Space Telescope Science Institute. For more information on the IDEA program, contact Dr. Anne Kinney, Project Scientist for Education, Space Telescope Science Institute, 3700 San Martin Drive, Baltimore, MD 21218.

Proposals will not be selected solely or primarily on the strength of their education/outreach components, although the quality of a proposed education/outreach effort could be used as an additional factor in selecting among otherwise equal proposals. Evaluation criteria for education components will include:

- The educational effectiveness and realism of program concept,

- Existence of effective partnerships with educational institutions and/or effective leveraging of existing resources and the prospects for the program to have a multiplier effect,
- Capability of proposers to carry out proposed program,
- Consistency with national educational reform efforts, and
- Consistency of budget with the OSS Education/Public Outreach Strategy.

## **6. Evaluation, Selection, Notification, and Award Implementation**

The evaluation criteria shall be as in Appendix B, section 13, with the explicit understanding that “NASA’s objectives” referred to in Appendix B are the objectives of this NRA stated in Appendix A. Proposals will be evaluated for intrinsic merit by peer scientists by mail and/or at a panel meeting. The program scientist will use the consensus of these reviews, plus considerations of cost and program objectives, to recommend selections for awards. Selections for awards will be made by the Director of the Research Program Management Division. Following selections, all proposers will be notified by mail of the decision on their proposal. NASA will tell proposers who to contact for further information or to arrange a debriefing, if proposer desires one. NASA may desire to select only a portion of a proposer's investigation, in which case the proposer will be given the opportunity to accept or decline such partial support.

When a proposal is selected for award, negotiation and award will be handled by the NASA Goddard Space Flight Center. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation. Grants and contracts, in conformance with NASA Grant and Cooperative Agreement Handbook (NPG 5800.1D) dated July 23, 1996, will be generated in order to fund successful proposals.

**OFFICE OF SPACE SCIENCE  
STANDARD FORMS FOR PROPOSERS RESPONDING TO  
NASA RESEARCH ANNOUNCEMENTS**

**PROPOSAL FORMS KIT**

1. PROPOSAL COVER PAGE
  - This form requires PI and institutional signatures
2. ABSTRACT FORM
3. SUMMARY BUDGET FORM and instructions for breakout
4. YEARLY BUDGET FORM
5. CURRENT AND PENDING FEDERAL SUPPORT FORM
6. CERTIFICATION FOR DRUG-FREE WORKPLACE
  - This form requires institutional signature.
7. CERTIFICATION FOR DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITIES
  - This form requires institutional signature.
8. CERTIFICATION REGARDING LOBBYING (IF > \$100,000)
  - This form requires institutional signature.
9. MAILING FORM UPDATE

## OSS PROPOSAL COVER PAGE

NRA #:	NRA Title:
Program:	

Principal Investigator			
<i>Title</i>	<i>First Name</i>	<i>Middle Name</i>	<i>Last Name</i>
Department			
Company/Institution			
Street Address		City/Town	
State	Zip/Postal	Country	
Telephone	Fax	E-Mail Address	
Principal Investigator's Signature			Date

Proposal Title
----------------

Co-Investigator(s) Name	Institution	E-mail

### Institutional Endorsement

Name of Authorizing Official	
Title	
Institution	
Signature	Date

Budget Summary				
	Year 1	Year 2	Year 3	Total Funding
Amount Requested				

**ABSTRACT**

Principal Investigator			
<i>Title</i>	<i>First Name</i>	<i>Middle Initial</i>	<i>Last Name</i>
Proposal Title			

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## SUMMARY BUDGET

FROM: \_\_\_\_\_ (starting date) to \_\_\_\_\_ (ending date)

TITLE OF INVESTIGATION:

PRINCIPAL INVESTIGATOR / INSTITUTION:

	A	<u>NASA USE ONLY</u>	
		B	C
1. Direct Labor (salaries, wages, and fringe benefits)	_____	_____	_____
2. Other Direct Costs:			
a. Subcontracts	_____	_____	_____
b. Consultants	_____	_____	_____
c. Equipment	_____	_____	_____
d. Supplies	_____	_____	_____
e. Travel	_____	_____	_____
f. Other	_____	_____	_____
3. Indirect Costs	_____	_____	_____
4. Other Applicable Costs	_____	_____	_____
5. Subtotal--Estimated Costs	_____	_____	_____
6. Less Proposed Cost Sharing	_____	_____	_____
7. Carryover Funds (if any)			
a. Anticipated amount	_____	_____	_____
b. Amount used to reduce budget	_____	_____	_____
8. Total Estimated Costs	_____	_____	XXXXXXXXXX
APPROVED BUDGET	XXXXXXXXXX	XXXXXXXXXX	_____

### Instructions

1. Provide a separate Budget Summary sheet for each year of the proposal research.
2. Grantee estimated costs should be entered in Column A. Columns B and C are for NASA use only. Column C represents the approved grant budget.
3. Provide in attachments to the budget summary the detailed computations of estimates in each category, along with any narrative explanation required to fully explain proposed costs.

----- ADDITIONAL INSTRUCTIONS ON FOLLOWING PAGE -----



## **INSTRUCTIONS FOR BUDGET SUMMARY**

1. Direct Labor (salaries, wages and fringe benefits). Enclosures should list number and titles of personnel, amount of time devoted to the grant, and rates of pay.
2. Other Direct Costs.
  - a. Subcontracts - Enclosures should describe the work to be subcontracted, estimated amount, recipient (if known), and the reason for subcontracting this effort.
  - b. Consultants - Identify consultants to be used, why they are necessary, time to be spent on the project, and rates of pay.
  - c. Equipment - List separately and explain the need for items of equipment exceeding \$1,000. Describe the basis for the estimated cost.
  - d. Supplies - Provide general categories of needed supplies, the method of acquisition, estimated cost, and the basis for the estimate.
  - e. Travel - List the proposed trips individually, describe their purpose in relation to the grant, provide dates and destinations where known, and explain how the cost for each was derived.
  - f. Other - Enter the total of any other direct costs not covered by 2.a through 2.e. Enclose an itemized list explaining the need for each item and the basis for the estimate.
3. Indirect Costs. Identify indirect cost rate(s) and base(s) as approved by the cognizant Federal agency, including the effective period of the rate. If unapproved rates are used, explain why and include a computational basis for the indirect expense pool and corresponding allocation base for each rate.
4. Other Applicable Costs. Enter the total of any other applicable costs not covered by instructions 1 through 3. Enclose an itemized list explaining the need for each item and the basis for the estimate.
5. Subtotal -- Estimated Costs. Enter the sum of items 1, 2.a through 2.f, 3, and 4.
6. Less Proposed Cost Sharing (if any). Enter the amount proposed, if any. If cost sharing is based on specific cost items, identify each item and amount in enclosures.
7. Carryover Funds (if any). Enter the dollar amount of any funds that are expected to be available for carryover from the prior budget period.
8. Total Estimated Costs. Enter the total after subtracting items 6 and 7 from item 5.

## YEARLY BUDGET

**FROM:** \_\_\_\_\_ (starting date)      to \_\_\_\_\_ (ending date)

**TITLE OF INVESTIGATION:**

**PRINCIPAL INVESTIGATOR/ INSTITUTION:**

	A	(NASA USE ONLY) B	C
1. Direct Labor (salaries, wages, and fringe benefits)	_____	_____	_____
2. Other Direct Costs:			
a. Subcontracts/grants	_____	_____	_____
b. Consultants	_____	_____	_____
c. Equipment	_____	_____	_____
d. Supplies	_____	_____	_____
e. Travel	_____	_____	_____
f. Other	_____	_____	_____
3. Indirect Costs	_____	_____	_____
4. Other Applicable Costs	_____	_____	_____
5. Subtotal--Estimated Costs	_____	_____	_____
6. Less Proposed Cost Sharing	_____	_____	_____
7. Carryover Funds (if any)			
a. Anticipated amount	_____	_____	_____
b. Amount used to reduce budget	_____	_____	_____
8. Total Estimated Costs	_____	_____	XXXXXXXXXX
APPROVED BUDGET	XXXXXXXXXXXXXX	XXXXXXXXXX	_____

## **CURRENT AND PENDING RESEARCH SUPPORT FROM ALL OTHER FEDERAL SOURCES**

Include all current research support for all other sources. Also include the proposed project and all other research requiring a part of the PI's time. State the number of person months regardless of the source of the support.

Name of Principal Investigator \_\_\_\_\_

**A. Current Support**

1. Source of Support \_\_\_\_\_
2. Project Title \_\_\_\_\_
3. Award Amount \_\_\_\_\_
4. Period of Award \_\_\_\_\_
5. Person-Months \_\_\_\_\_

**B. Pending Proposals (including supplement applications)**

1. Source of Support \_\_\_\_\_
2. Project Title \_\_\_\_\_
3. Award Amount \_\_\_\_\_
4. Period of Award \_\_\_\_\_
5. Person-Months \_\_\_\_\_

**Other Agencies to which this proposal, or parts thereof, has been submitted:**

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**Duplicate this page as many times as needed to provide a complete list.**

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## Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals

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This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or government wide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

This grantee certifies that it will provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing a drug-free awareness program to inform employees about -
  - The dangers of drug abuse in the workplace;
  - The grantee's policy of maintaining a drug-free workplace;
  - Any available drug counseling, rehabilitation, and employee assistance programs; and
  - The penalties that may be imposed upon employees for drug abuse violations in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will -
  - Abide by the terms of the statement; and
  - Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;
- (e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction;
- (f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2) , with respect to any employee who is so convicted -
  - Taking appropriate personnel action against such an employee, up to and including termination; or
  - Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraph (a), (b), (c), (e), and (f).

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Organization Name

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PR/Award Number or  
Proposal Name

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Name and Title of Authorized Representative

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Signature

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Date

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**Certification Regarding  
Debarment, Suspension, and Other Responsibility Matters  
Primary Covered Transactions**

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This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participant's responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211).

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - (d) Have not within three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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Organization Name

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PR/Award Number or Proposal Name

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Name and Title of Authorized Representative

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Signature

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Date

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## Certification Regarding Lobbying

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### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000 for each such failure.

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Organization Name

PR/Award Number or Proposal Name

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Name and Title of Authorized Representative

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Signature

Date